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# Comparison of Public Mental Health Stigma in Youth

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COMPARISON OF PUBLIC MENTAL HEALTH STIGMA IN YOUTH

by

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# ABSTRACT

Comparison of Public Mental Health Stigma in Youth

by

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Mental health stigma has been a topic of research for many years, and many studies have been conducted to explore it. Qualitative studies, vignette studies and survey studies all show that stigma is a considerable problem for people with Attention-Deficit/ Hyperactivity Disorder (ADHD) and depression. The present study used a rating scale measure of stigma to compare stigma associated with ADHD, depression, and asthma in a group of adolescents aged 11-14. The stigma ratings for asthma were significantly lower than those for depression across all six factors included on the measure, and significantly lower than ADHD on three of the six factors and the total score. Depression had significantly higher stigma ratings than ADHD on four of six factors and the total sore. Results revealed significant differences between ratings of male and female participants in just one area—reliability and social functioning. Future research may include further exploration of more mental health concerns and how they are stigmatized by this age group and may lead to more effective interventions to reduce stigma as well as measures to watch their effectiveness.

(52 pages)

# PUBLIC ABSTRACT

Comparison of Public Mental Health Stigma in Youth

Desiree A. Clarke

The present study looked at mental health stigma in youth. Mental health stigma is devaluing, disgracing and disfavoring individuals with mental illness. Participants aged 11-14 completed a measure to rate their stigmatizing beliefs toward peers with either ADHD, depression, or asthma. Their ratings were compared for significance between genders and for the three different conditions: ADHD, depression, and asthma. Significant differences were found between the stigma ratings for asthma, depression and ADHD. ADHD had significantly higher stigma ratings than asthma, and depression had significantly higher stigma ratings than ADHD (on some, but not all, areas rated) and had consistently higher ratings than asthma. Only one factor showed a significant effect for gender, and on all other factors there were no significant difference in stigma ratings between male and female respondents. It is hoped that the current study will aid in the general understanding of mental health stigma among youth, as well as lead to additional research on mental health stigma.

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Desiree A. Clarke

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# CHAPTER I

# INTRODUCTION

Mental illness presents a challenge to many people in many ways. In addition to managing symptoms and keeping up with life, stigma is a common concern for those with mental illness, as well as their loved ones. Stigma can be defined in simple terms as the collective stereotypes, prejudice, and discriminatory behavior toward people of certain groups (O'Driscoll, Heary, Hennessy, & McKeague, 2012) and has been described as a "modifiable but chronic and culturally formed environmental stressor" (Mueller, Fuermaier, Koerts, & Tucha, 2012, p. 101). While there are various kinds of stigma, the focus of the present study is public stigma. People define public stigma differently; some define it narrowly as stereotypes, prejudice and discrimination (Corrigan & Watson, 2002), while others define public stigma more broadly as "barriers to functioning and societal participation" (Chronister, Chou & Liao, 2013, p. 583). One definition of public stigma of mental illness is devaluing, disgracing and disfavoring individuals with mental illness (Arora, Metz, & Carlson, 2016). Other definitions of public stigma used in the literature include that the stigma is felt or understood to exist by the person with mental health concerns (Brown, Maloney, & Brown, 2018). Stigma is a problem experienced by many people whose life experience is poorly understood by the public. Public stigma can be manifested in many ways including assignment of labels (such as "the dumb kid" or "short bus"), being identified as part of the "out" or "other" group, associated with negative characteristics (like violent tendencies, poor academic performance or untrustworthiness), and being discriminated against (Chronister et al.,

2013).

Other types of stigma that affect people with mental illness include self-stigma (stigma directed at the self) and courtesy stigma (directed at those close to individuals in stigmatized groups). Three main factors that increase the likelihood of experiencing stigma related to mental illness are: visibility of the disorder, perceived controllability, and being misunderstood by the public (Canu, Newman, Morrow, & Pope, 2007). All of the kinds of stigma mentioned here have been investigated in research and have been shown to have significant effects on the lives of people with mental illness. One concern is that mental health stigma affects individuals' willingness to disclose their mental health concerns (Brown et al., 2018). Nondisclosure of mental health concerns can have negative effects on individuals that include low self-esteem and a less supportive social network, while disclosure is associated with a greater sense of empowerment, increased quality of life, reduction of internalization of stigma feelings and even a reduction of public stigma (Brown et al., 2018). Additional effects include depression; feeling misunderstood and ashamed; reduced help seeking; poor adherence to medication; and reduced quality of life, access to jobs, health coverage, and living space (Chronister et al., 2013).

One consistent finding in the literature is that public stigma and self-stigma both affect treatment seeking in those who have mental health concerns (Wendt & Shafer, 2015). Research consistently shows that mental health stigma decreases the likelihood of seeking treatment (Cheng, Wang, McDermott, Kridel, & Rislin, 2018). According to one article, approximately one third of participants reported concerns about self or public

stigma affecting their decision to seek help for their mental health (Arora et al., 2016). Because their mental health concerns remain untreated, they are more likely to express their difficulties and negative emotion in unhealthy ways that affect both themselves and those around them (Furman, 2010).

There are some studies that speak to gender differences in mental health stigma. Generally, research shows that females express significantly less stigma than males (Arora et al., 2016; Cheng et al, 2018; Wendt & Shafer, 2015). Some studies even suggest reasons that these differences exist. Cheng et al. state that women tend to show more positive attitudes toward help seeking and cite the fact that openness to acknowledging difficulties and the need to seek out help is more associated with females. Because men are seen to have stronger stigmatizing views than women, it has also been found that men are less likely to seek help (Cheng et al, 2018). Furman (2010) suggests that men not seeking help even becomes a public health concern because they are more prone, as a population, to act out with anger and violence when there are mental health concerns.

Among the mental health concerns to receive attention in the stigma research is Attention-Deficit/Hyperactivity Disorder (ADHD), which is a focus of the current study. ADHD is a neurodevelopmental disorder characterized by inattention and hyperactivity (American Psychiatric Association [APA], 2013). According to the National Institute of Mental Health (NIMH), in 2011, 11% of children and adolescents ages 4-17 had been diagnosed with ADHD sometime in their life. That is an increase from 7.8% in 2003 (NIMH, 2019). Prevalence data from 2003 and 2011 show that males had a higher

prevalence than females. In a recent review of ADHD stigma studies, the authors concluded that the research shows that ADHD is a highly stigmatized mental illness (Bussing & Mehta, 2013). ADHD is among the childhood disorders defined as "externalizing" which means that it is a disorder that is largely characterized and identified by difficult behavior. The visibility of ADHD makes it easy for many people to misunderstand and judge individuals who display the behaviors characteristic of ADHD. Some misconceptions of ADHD include the idea that ADHD is caused by poor parenting or by a child choosing to misbehave (Bussing & Mehta, 2013), which is evidence both that ADHD is seen as controllable and is largely misunderstood. In a national study vignettes were created representing cases of children with ADHD and depression (Pescosolido et al., 2008). Researchers asked 1,393 adult participants to identify the disorder described in the vignette. For the ADHD vignettes, only 42% of respondents were able to correctly identify ADHD (as opposed to 58.5% correctly identifying depression) and, of those participants, 19% answered that ADHD was not a mental illness when asked (as opposed to 12.1% rejecting the mental illness label for depression). This finding helps confirm that ADHD carries stigma, as many people in the general public do not see it as a mental illness, and therefore view it as potentially preventable. Studies have shown that stigma is a daily concern for children and adolescents with ADHD (Bussing & Mehta, 2013). Stigma may be a barrier to young patients' treatment seeking (Bussing & Mehta, 2013), and is linked to feelings of shame in adolescents with ADHD (Gajaria, Yeung, & Charah. (2011), and low self-esteem (Barber, Grubbs, & Cottrell, 2005).

The current study also looks at depression and examines stigma toward people who experience symptoms of depression. Depression is primarily an internalizing disorder that is characterized by a low mood, lack of interest and enjoyment, and feelings of worthlessness and hopelessness (APA, 2013). There are some external symptoms also, that may include sleeping or eating either much more or much less than usual, as well as psychomotor agitation or slowdown (APA, 2013). According to NIMH, in 2017 an estimated 3.2 million adolescents ages 12-17 in the U.S. (13.3% of the total population) had experienced a major depressive episode in the last year. NIMH also shows that numbers of adolescents that experience depressive episodes increase in percentage every year from ages 12 to 15, where the percentage then remains more stable through age 17. Females are as much as 1.5 to 3 times more likely to experience depression than males (APA, 2013). Of note is the fact that both ADHD and depression substantially affect youth. For that reason, and because the research had less information on adolescents than on adults, the present study focuses on mental health stigma in adolescents.

Research shows that depression has a significant amount of stigmatization. Many studies show that people with depression carry self-stigma and experience public stigma also (Hasan & Musleh, 2017; Melas, Tortani, Forsner, Edhborg, & Forsell, 2013). One study used a stigma survey to show that people with depression are viewed as more dangerous than people with a physical illness (Montieth & Petit, 2011). People with depression often get blamed for their difficulties more than people who experience schizophrenia and dementia. Depression is seen to be a less stable illness than many physical illnesses, schizophrenia, and eating disorders (Montieth & Petit, 2011).

However, one study found that seeking treatment for depression can cause affected individuals to be further stigmatized by their community (Gearing et al., 2014). Another difficulty with depression that relates to stigma is that the behavior associated with depression is related to public beliefs about characteristics of and causes of depression (Boucher & Campbell, 2014). That is to say that in the public eye, behaviors exhibited by people with depression seem to confirm the causes and characteristics of depression. Recall that Canu, et al. (2007) identified three main factors that increase mental health stigma: disorders that are visible, perceived as controllable, and misunderstood by the public. According to the research cited here, depression may not be as visible as other mental health concerns, but it certainly is not well understood by the public and the public tends to blame those that experience depression, which shows that it is, at least to some extent, perceived as controllable. These two factors show that depression, like ADHD, is a highly stigmatized mental illness.

While much is understood about the stigma associated with ADHD and depression, there is much more work to be done. ADHD has been found to be more stigmatized than other mental health disorders (Bussing & Mehta, 2013), and depression is also a highly stigmatized mental illness. While a lot of work has been done in exploring the stigma related to ADHD and other mental health disorders, much still needs to be done to understand it further. It is hoped that the current study will help the field progress in understanding stigma seen in adolescent populations. ADHD and depression were selected for this study because they are both prevalent and known by youth ages 11-14. Youth of these ages see and experience ADHD and depression and are likely to have

formed opinions on people who experience either disorder. The present study addressed the following research questions: (1) Is the degree of stigma associated with ADHD greater than stigma associated with depression and asthma (a control condition), and (2) Are there any significant differences in stigma ratings between male and females?

# CHAPTER II

# LITERATURE REVIEW

## Mental Health Stigma

Stigma has been found to be a significant problem, especially among those who have been diagnosed with mental health disorders. Living with a mental illness is often difficult and the stigma presents an additional dimension of difficulty, which some argue can be even worse than the mental illness condition itself (Chronister et al., 2013). One study outlined some key characteristics of mental health stigma including individuals with mental health disorders being perceived as dangerous, unpredictable or different and even being responsible in some way for their condition (Chronister et al., 2013). Some effects of mental health stigma include depression; feeling misunderstood and ashamed; reduced help seeking; poor adherence to medication; and reduced quality of life, access to jobs, health coverage and living space (Chronister et al., 2013). Another study showed that better knowledge and understanding of mental health disorders is the biggest single factor in reducing individuals' stigmatizing attitudes (Evans-Lacko, Brohan, Mojtabai, & Thornicroft, (2012). Studying mental health stigma may also help boost understanding of mental illness. The following is a review of some studies that have been conducted to further knowledge of mental health stigma, as well as a discussion of what may be done to add to that pool of knowledge.

Researchers have studied mental health stigma in a variety of ways. Historically, many different data collection methods have been used to accomplish this. Most of the

studies rely on surveys or vignettes, which are short, fictional descriptions of a person or a scenario, but other use validated measures or more qualitative data collection techniques. The following study uses multiple techniques to explore stigma, mental health literacy and their relationship to seeking mental health treatment; it explored the relationship between mental health literacy (ability to recognize symptoms and correctly attribute them to mental illness) and help seeking behavior (Cheng et al., 2018). These researchers used a few different measures combined with vignettes to explore this relationship. The vignettes were used to assess mental health literacy by exposing participants to short examples of how anxiety symptoms may look in real life and assessing their ability to recognize and attribute the symptoms described to either depression or anxiety. The measures were used to gather information about the participants' knowledge and experience with mental health difficulties. Among the measures used were the Patient Health Questionnaire -9 and the Generalized Anxiety Disorder -7 scale along with the Self-Stigma Seeking Help Scale. The following groups had a significantly smaller likelihood of seeking help for their mental health concerns than other groups: males, Asian Americans, those currently experiencing depression, those with high self-stigma, and those experiencing stress related to the depression or anxiety. Conversely, women and people who had sought help in the past for similar concerns were more likely to seek help. It was found that mental health literacy was a stronger predictor of help seeking behavior than self-stigma. The study suggested that helping people to understand their own self-stigma would help to increase help-seeking behavior.

Even though many studies rely on vignettes and surveys, like the above, other studies use different methods of measurement. An example of a different measurement approach is the use of the Brief Implicit Associations Test (BIAT). The purpose of Implicit Associations Tests (IAT) is to measure unconscious biases toward an idea or group that participants may be unable or unwilling to voice (Project Implicit, 2011). To do this, the IAT uses a computerized program to measure the time it takes for a participant to pair certain concepts to groups or identities. In a study on stigma associated with depression (Kashihara, 2015), participants took the BIAT, then were given educational materials about depression, and later took the BIAT again. The educational materials outlined either a biomedical, psychosocial, or bio-psychosocial model of depression. Researchers found that the BIAT scores were significantly decreased, reflecting less bias, immediately after having read the educational materials, but at the 4-week follow-up, there were no significant differences. This demonstrates that it may be relatively easy to change attitudes for a short time with some training, but a long-term effect is harder to achieve (Kashihara, 2015).

Montieth and Petit (2011) designed a study to look at implicit and explicit biases surrounding depression. In this study, participants did an implicit bias test, similar to the one mentioned above, and filled out a stigma questionnaire. The researchers compared the participants' responses for depression and physical illness. Three attributes of illness were rated: attitudes of respondents, controllability, and stability. For the attitudes of the respondents, a large effect was found for implicit responses between depression and physical illness ($d$ = -1.10) indicating more negative attitudes toward depression, but for

explicit responses, the difference between the two was small and not statistically significant. When implicit responses were compared, there was a significant difference between the depression and physical illness groups in perceived stability ($d$ = 1.01) but no difference was found in the explicit responses. The opposite held true for the controllability construct; there was not a significant effect for the compared implicit responses, but there was a small effect ($d$ = 0.28) for the explicit responses, showing that depression was seen explicitly to be more controllable.

Other researchers have furthered the study of mental health stigma by designing measures that are useful for measuring a specific type of stigma, sometimes for a specific disorder. One of the most cited measures for ADHD stigma, for example, is Kellison's ADHD Stigma Questionnaire (ASQ; Kellison, Bussing, Bell, & Garvan, 2010). This measure was originally adapted from an HIV stigma questionnaire and is administered to people with ADHD to explore the self-stigma experienced by people with ADHD. Bell, Long, Garvan, and Bussing (2010) used the ASQ and explored its psychometric properties with teachers. Teachers with special education credentials endorsed significantly higher stigma ratings on the overall score as well as the three subscales on the measure compared to a control group of adult professionals who were not teachers (Bell et al., 2010.

Fuermaier et al. (2012) created a measure of public stigma that was validated primarily on adults (persons ages 17-79). This measure was used in a study comparing stigma toward ADHD among teachers, physicians, and a control group (a demographically similar group of adults that were neither teachers nor doctors)

(Fuermaier et al., 2012). The study found significantly higher stigma ratings (as compared to controls) in both physicians and teachers on the subscale that focused on malingering and misuse of medication (Cohen's $d = 0.63$ for teachers v. controls and $d = 0.44$ for physicians v. controls). Additionally, teachers held significantly more stigmatizing attitudes on the subscale for norm violating and externalizing behavior when compared to controls ($d = 0.40$) and physicians had significantly higher stigma on the etiology scale when compared to controls ($d = 0.42$). No significant differences were found on the overall stigma ratings or the subscales between teachers and physicians.

In exploring the stigma that ADHD carries, one study found that magazines have a mixed portrayal of ADHD, some even denying the existence of ADHD (Clarke, 2011). This ties in to research that suggests that mental health disorders that are significantly misunderstood bear a lot of stigma (Canu, et al. 2007; Melas et al., 2013)

Another study that examines ADHD stigma relies on vignettes. In a national study adult participants were asked to read vignettes describing children with ADHD, depression, or "daily troubles" without any kind of label or diagnosis (Pescosolido et al., 2008). When asked to identify what problem was described in the vignette, 58.5% of participants correctly identified depression, and 41.9% correctly identified ADHD. Participants were also asked to rate the severity of the problem described in the vignette and this was coded dichotomously, as "very serious" or "somewhat or not serious." Rated this way, only 38.4% of respondents given an ADHD vignette believed the person's problem was "very serious," but 83.6% of participants rating depression found the person's problem to be "very serious." The level of severity perceived by participants

could speak to a perception about the level of controllability as seen by the public for ADHD and depression; ADHD was seen as the less severe, and, therefore, possibly more controllable.

A few studies compare stigma for one mental illness to another. Two such studies looked at stigma and mental health literacy of depression and schizophrenia, one among adults in Jordan, and the other among adolescents in Sweden. Melas et al. (2013) found that when presented with a vignette featuring a person experiencing symptoms of depression or schizophrenia, 55.2% did not recognize depression and 55.9% did not recognize schizophrenia. Causes for the person's difficulties were similar in both cases, with stress being the primary cause if the mental illness itself was not recognized. In the case of depression, though, some adolescents suggested that the symptoms described may be a result of the person's age (Melas et al., 2013). These results illustrate some ways that depression is misunderstood, which is one key factor in stigma toward people with depression (Canu et al., 2007). Hasan and Musleh (2017) found that stigma ratings for schizophrenia were higher than that of depression among those surveyed in Jordan.

In another study, children and adolescents were presented with vignettes describing peers with ADHD, depression, or asthma (Walker, Coleman, Lee, Squire, & Friesen, 2008). Participants were asked about positive and negative attributions of each condition, as well as other factors relating to stigma, such as preference for social distance. Participants rated peers with ADHD and depression with more negative attributions (such as propensity for violence and antisocial behavior) than asthma. Researchers found moderate effect sizes for preference for social distance when

comparing asthma to ADHD ($d$ = .37) and depression ($d$ = .45). The research team also measured negative family attitudes and found that compared to peers with asthma, those with depression and ADHD were rated more negatively ($d$ = .78 and .45, respectively). When the researchers compared family attitudes between depression and ADHD, there was significantly greater stigma for depression ($d$ = .84), but when researchers compared depression and ADHD for negative attributions, they were not significantly different ($d$ = .17 (Walker et al., 2008). The higher effect sizes for the depression stigma is a little surprising here, given that other studies have found that ADHD is more stigmatized.

Stigma and Treatment Seeking

Among the most prominent effects of mental health stigma discussed in the research is the impact of stigma on treatment seeking behavior. While many factors affect treatment seeking, stigma is one of the factors that is strongly linked with delays in or unwillingness to seek treatment (Bussing, Zima, Mason, Porter & Garvan, 2011). A study done by Bussing, et al (2011) used interviews of both adolescents and parents to show that stigma does have a negative effect on treatment receptivity in adolescents with ADHD (Bussing et al., 2011). In the study, interviews and several measures were used to identify factors that led to decreased treatment receptivity (the willingness to participate in treatment). Of the factors identified, ADHD stigma was the most predictive of decreased treatment receptivity (Bussing et al., 2011).

One study shows that only about half of children and adolescents with ADHD are receiving care according to accepted care standards which in part is due to treatment refusal (Bussing et al., 2012). Some studies have explored this phenomenon, including a

study in which adolescents and adults (parents, teachers and health professionals working with children and adolescents diagnosed or at high risk of ADHD) were surveyed about their treatment habits and options (Bussing et al., 2012). Five treatment options were described and then rated on several factors including perceived effectiveness, inconvenience to use, and embarrassment in participating in treatment. The adolescent participants rated their willingness to use each of the treatment options lower than the adults administering treatment and parents of involved adolescents. This shows that adolescents with ADHD have a more negative attitude toward ADHD treatment than the adults that help treat it. Another study found an effect with treatment seeking for ADHD and age, where men above age 30 and women 45 and older were more likely to delay onset of ADHD treatment than were younger groups (Dakwar et al., , 2014). Also, the study found that 55% of people with ADHD would likely seek treatment at some point in their lives, compared to 87% who would seek treatment for mental health disorders generally (Dakwar, et al. 2014). A meta-analysis of barriers to mental health treatment found that when it came to help seeking behavior, attitudinal barriers were the most common, including stigma, negative beliefs about mental health, misinterpretation about the consequences of treatment, and unawareness of treatments that may be able to help (Andrade et al., 2013). According to the study, 96.3% of people who recognized a need for treatment but did not get it cited attitudinal barriers such as wanting to handle the difficulty on their own, that the problem would get better on its own, and that the problem is not severe.

## Gender and Stigma

Another subject of interest in the present study is the differences in stigma ratings between genders. Furman (2010) states that culturally, men tend be unwilling to acknowledge their weakness and get help for their problems and that research suggests also that men tend to be skeptical about mental health professionals. This skepticism includes a doubt that that mental health professionals can really help with the problems they experience, or the idea that feelings of depression and anxiety are normal and therefore cannot be helped. Other men struggle to help others understand what it is they feel and may even feel unwanted as clients in settings where they can receive help (Rochlen et al. 2010).

Arora et al. (2016) showed that personal stigma (used as a synonym for self-stigma) and gender were both related to professional help seeking behavior. In their study, they evaluated attitudes toward help seeking in South Asian college students studying in the U.S. They found that an increase in personal stigma was associated with increasingly negative attitude toward help seeking. Further, they found that males had significantly stronger negative attitudes toward help seeking than their female counterparts. By extension, then, the reader can conclude that male participants likely had more stigmatizing attitudes than female participants. Wendt and Shafer (2015) also examined gender differences in help seeking behavior. Using a vignette design, it was found that men and women have similar attitudes about informal help seeking, such as seeking help from family, friends, clergy or other non-professional sources. However, men were less likely than women to endorse formal treatment for individuals with

depression. The gender of the person described in the vignette had no effect on the endorsement of help seeking; rather, it was the gender of the participants that influenced results (Wendt & Shafer, 2015).

Some of the research on gender and stigma does have participants that are youth. For example, Chandra and Minkovitz (2006) had American eighth graders fill out a survey that included questions on mental health knowledge and experience, and questions about stigmatizing attitudes. The researchers found that the male participants had less mental health knowledge and experience and held more stigma than their female counterparts. Another study done by the same researchers, also with American eighth graders, took a qualitative approach and used a structured interview. Participants revealed that many felt that parents, peers, and school staff all had stigmatizing attitudes toward mental health issues such that the participants felt that they would not receive help if they asked for it, and even that their peers would make fun of them for being different. Participants of both genders also reported that they felt that parents would be uncomfortable with a male student receiving mental health support from a school counselor. Further, it was reported by students of both genders that conversations with peers to communicate difficult emotions and other mental health related symptoms can be helpful, but that they are less likely to occur between male peers (Chandra & Minkovitz, 2007).

Another study done by Calear, Griffiths, and Christensen (2011) used a survey design to examine two types of stigma towards depression: perceived stigma (perceptions of what others think) and personal stigma (individuals' thoughts and perceptions). Male

participants exhibited higher rates of personal depression stigma and female participants were found to show higher rates of perceived depression stigma. Overall, males were found to have higher rates of expressed stigma between adults and youth in several studies. The finding that females had higher rates of any type of stigma is different than other studies discussed here, making this finding stand out relative to the others.

## Summary

As a group, the studies described above provide evidence that stigma exists that affects people with ADHD, depression and other mental illness in many important ways, including willingness to accept treatment. The aim of the present study is to compare stigma of ADHD, depression, and asthma within an adolescent population. An adolescent population was chosen for this study largely because there is less research on youth's stigma attitudes than on adults. Responses were compared between male and female respondents as well as between ADHD, depression, and asthma to increase understanding of the stigma. This research will serve as a bridge for future directions in mental health stigma research, hopefully leading to increased understanding of stigma in schools and giving a start to useful in-school interventions to lessen stigma.

# CHAPTER III

# METHODS

## Participants

A total of 120 youth age 11-14 ($M$ = 12.6, $SD$ = 1.18) participated in this study. Among the participants, 44 (37%) identified themselves as male and 76 (63%) as female. Participants were randomly assigned to one of three different groups to rate stigma associated with either ADHD ($n$ = 42), Depression ($n$ = 40), or Asthma ($n$ = 38). Participants needed to be fluent in English, be able to read the measure, be able to use a computer to take the survey, and be within the stated age range of 11-14. See Table 1 for complete demographic information.

Table 1

*Participant Demographics*

| | ADHD ($n$ = 42) | | Depression ($n$ = 40) | | Asthma ($n$ = 38) | | Total ($n$ = 120) | |
|---|---|---|---|---|---|---|---|---|
| Participants | *n* | % | *n* | % | *n* | % | *n* | % |
| Male | 13 | 31 | 14 | 35 | 17 | 45 | 44 | 37 |
| Female | 29 | 69 | 26 | 65 | 21 | 55 | 76 | 63 |
| Family with ADHD | 6 | 24 | 10 | 40 | 9 | 36 | 25 | 21 |
| White | 36 | 86 | 36 | 90 | 34 | 89 | 106 | 88 |
| Black or African American | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 1 |
| Hispanic or Latino/a | 1 | 2 | 2 | 5 | 1 | 3 | 4 | 3 |
| American Indian or Alaskan Native | 0 | 0 | 1 | 34 | 0 | 0 | 1 | 1 |
| Mixed race | 1 | 2 | 1 | 3 | 0 | 0 | 2 | 2 |
| Prefer not to say | 3 | 7 | 0 | 0 | 3 | 8 | 6 | 5 |

## Measures

The present study used an adapted form of the ADHD Stigma Questionnaire (ASQ; Fuermaier et al., 2012) to assess stigma. The measure was altered to make the individual questions more relevant to middle school participants because the original measure was designed for use with adults. The measure has 37 items that are all focused on a single disorder (ADHD in the original). Items are answered on a 6-point Likert scale, from "*strongly disagree*" to "*strongly agree*," with higher scores indicating greater stigma. Initial item generation was based on literature study of myths and perceptions of ADHD along with the researchers' experiences with working with clients with ADHD and interviews from some adults with ADHD (Fuermaier et al, 2012). Confirmatory factor analysis showed a psychometrically strong 6 factor structure (Fuermaier et al, 2012). The six factors used in the Fuermaier study are also used in this study. They are: reliability and social functioning, malingering and misuse of medication, ability to take responsibility, norm-violating and externalizing behavior, consequences of diagnostic disclosure, and etiology.

Because the ADHD stigma measure was originally intended for adults, some items required modifications for use with students ages 11-14. Simple word substitution was used when sufficient (such as the replacement of the word "adult" with "student"), but some items required more modification. For example, a question about hiring and working with a person with ADHD, was changed to focus on group projects at school. Items include such statements as "I could tell when a student in my class has ADHD/ depression/asthma," "Many students pretend to have ADHD/depression/asthma just to

get medication," and "As a rule, students with ADHD/depression/asthma feel that telling others that they have ADHD/depression/asthma was a mistake." Three forms of the modified measure were used in this study. One refers to ADHD in the items as did the original measure. The other two forms referred to depression and asthma, respectively, instead of ADHD (see the Appendix for the full survey). Internal consistency of the survey was measured using Cronbach's alpha. Cronbach's alpha for the entire questionnaire in the current sample was .951. Cronbach's alpha was also calculated for the individual factors: reliability and social functioning ($\alpha = .892$), malingering and misuse of medication ($\alpha = .937$), ability to take responsibility ($\alpha = .825$), norm-violating and externalizing behavior ($\alpha = .823$), consequences of diagnostic disclosure ($\alpha = .737$), and etiology ($\alpha = .866$).

In addition to completing this measure, participants were asked to answer some basic demographic questions, about age, ethnicity, and gender as well as being asked if they themselves, or an immediate family member, had a diagnosis of ADHD.

## Procedure

The researchers obtained USU IRB approval prior to data collection. Students were recruited through their local schools, all within the same school district. The student researcher, after obtaining approval from the school district, contacted five individual building principals (four agreed, the fifth never responded to the e-mail) and with their permission and recommendations of which teachers to contact, reached out to six individual teachers for permission to work with their students. One principal preferred to

work with the teachers directly and have a hand in distributing consent forms. In three of the school buildings, the student researcher distributed the consent forms to the participating teachers. Teachers distributed consent forms to students to take home to their parents. When the consent forms were returned, the teachers gave the student a small candy reward and, for those whose parents consented, instructions on how to access the survey via URL or QR code for smartphones. In the fourth building, the principal preferred to distribute and collect the consent forms. Otherwise, the process was the same as the other three buildings.

The survey was administered on Qualtrics, and teachers chose whether to allow class time for its completion or to have students complete it on their own time. Upon starting the survey, the students saw a description of the study and gave assent to participate as part of the survey. Participants were randomly assigned to take one of the three forms of the survey, focusing exclusively on ADHD, depression, or asthma (control), which took approximately 10 minutes for administration. Upon completion of the survey, participants were directed to a second survey to provide their e-mail to enter a drawing for one of two $10 Amazon gift cards. In this way, the participants' specific information was never connected to their survey responses.

Approximately 900 consent forms were distributed in all. Of these, 213 consent forms were returned (24% return rate), 182 indicating that the student had permission to participate in the study and 31 denying consent to participate. Of the182 students whose parents gave consent, 144 participated in the survey (79%). Some participants' data were excluded due to them being outside of the age range ($n$ = 14), and others because they did

not complete the survey ($n$ = 10). With 120 completed surveys that met inclusion criteria, the overall useable return rate was 13%. Data collection stopped when the school year finished.

# CHAPTER III

# RESULTS

Two-way ANOVAs were used to analyze the differences in stigma ratings between ADHD, depression, and asthma as well as the gender of the respondents (see Tables 2-8). The independent variables were gender and disability condition specified in the survey. The dependent variables were the total score and six subscales from the ASQ: reliability and social functioning, malingering and misuse of medication, ability to take responsibility, norm-violating and externalizing behavior, consequences of diagnostic disclosure, and etiology. See Table 9 for means and standard deviations.

Table 2

*ANOVA Test: Reliability and Social Functioning*

| Source | Type III sum of squares | *df* | Mean square | *F* | Sig. |
|---|---|---|---|---|---|
| Corrected model | 1917.946 | 5 | 383.589 | 8.232 | .000 |
| Intercept | 58893.612 | 1 | 58893.612 | 1263.890 | .000 |
| Gender | 218.573 | 1 | 218.573 | 4.691 | .032 |
| Disability | 1625.270 | 2 | 812.635 | 17.440 | .00 |
| Gender*disability | 21.885 | 2 | 10.942 | .235 | .791 |
| Error | 5312.046 | 114 | 46.597 | | |
| Total | 69839.000 | 120 | | | |
| Corrected total | 7229.992 | 119 | | | |

There were no significant interaction effects between disability and gender. There was a main effect for gender on only one factor (reliability and social functioning), with males showing significantly more stigma. There was a significant main effect for disability on all six factors and the total score. Post hoc testing was performed using

Table 3

*ANOVA Test: Malingering and Misuse of Medication*

| Source | Type III sum of squares | *df* | Mean square | *F* | Sig. |
|---|---|---|---|---|---|
| Corrected model | 570.786 | 5 | 114.157 | 2.010 | .083 |
| Intercept | 49881.234 | 1 | 49881.234 | 878.063 | .000 |
| Gender | 1.853 | 1 | 1.853 | .033 | .857 |
| Disability | 430.270 | 2 | 215.135 | 3.787 | .026 |
| Gender*disability | 100.137 | 2 | 50.01 | .881 | .417 |
| Error | 6476.139 | 114 | 56.808 | | |
| Total | 61107.000 | 120 | | | |
| Corrected total | 7046.925 | 119 | | | |

Table 4

*ANOVA Test: Ability to Take Responsibility*

| Source | Type III sum of squares | *df* | Mean square | *F* | Sig. |
|---|---|---|---|---|---|
| Corrected model | 632.200 | 5 | 1126.440 | 5.80 | .000 |
| Intercept | 18398.561 | 1 | 18398.561 | 844.038 | .000 |
| Gender | 54.56 | 1 | 54.56 | 2.50 | .116 |
| Disability | 480.318 | 2 | 240.159 | 11.017 | .000 |
| Gender*disability | 26.562 | 2 | 240.159 | 11.017 | .546 |
| Error | 2485.000 | 114 | 21.798 | | |
| Total | 22778.000 | 120 | | | |
| Corrected total | 3117.200 | 119 | | | |

Table 5

*ANOVA Test: Norm-Violating and Externalizing Behavior*

| Source | Type III sum of squares | *df* | Mean square | *F* | Sig. |
|---|---|---|---|---|---|
| Corrected model | 862.861 | 5 | 172.572 | 8.714 | .000 |
| Intercept | 22188.948 | 1 | 22188.948 | 1120.391 | .000 |
| Gender | 28.905 | 1 | 28.905 | 1.459 | .230 |
| Disability | 789.721 | 2 | 394.861 | 19.938 | .000 |
| Gender*disability | 42.826 | 2 | 21.413 | 1.081 | .343 |
| Error | 2257.731 | 114 | 19.805 | | |
| Total | 27119.000 | 120 | | | |
| Corrected total | 3120.592 | 119 | | | |

Table 6

*ANOVA Test: Consequences of Diagnostic Disclosure*

| Source | Type III sum of squares | *df* | Mean square | *F* | Sig. |
|---|---|---|---|---|---|
| Corrected model | 941.665 | 5 | 188.333 | 10.736 | .000 |
| Intercept | 22111.618 | 1 | 22111.618 | 1260.487 | .000 |
| Gender | .000 | 1 | .000 | .000 | .997 |
| Disability | 869.991 | 2 | 434.995 | 24.797 | .000 |
| Gender*disability | .940 | 2 | .470 | .027 | .974 |
| Error | 1999.802 | 114 | 17.542 | | |
| Total | 27252.000 | 120 | | | |
| Corrected total | 2941.467 | 119 | | | |

Table 7

*ANOVA Test: Etiology*

| Source | Type III sum of squares | *df* | Mean square | *F* | Sig. |
|---|---|---|---|---|---|
| Corrected model | 535.266 | 5 | 107.053 | 8.280 | .000 |
| Intercept | 10200.426 | 1 | 10200.426 | 788.942 | .000 |
| Gender | 6.235 | 1 | 6.235 | .482 | .489 |
| Disability | 423.397 | 2 | 211.698 | 16.374 | .000 |
| Gender*disability | 16.513 | 2 | 8.257 | .639 | .530 |
| Error | 1473.934 | 114 | 12.929 | | |
| Total | 13300.000 | 120 | | | |
| Corrected total | 2009.200 | 119 | | | |

Table 8

*ANOVA Test: Total*

| Source | Type III sum of squares | *df* | Mean square | *F* | Sig. |
|---|---|---|---|---|---|
| Corrected model | 27879.959 | 5 | 5575.992 | 8.629 | .000 |
| Intercept | 1000637.889 | 1 | 1000637.889 | 1548.541 | .000 |
| Gender | 696.680 | 1 | 696.680 | 1.078 | .301 |
| Disability | 24220.605 | 2 | 12110.303 | 18.741 | .000 |
| Gender*disability | 812.207 | 2 | 406.103 | .628 | .535 |
| Error | 73664.633 | 114 | 646.181 | | |
| Total | 1183215.000 | 120 | | | |
| Corrected total | 101544.592 | 119 | | | |

Table 9

*Means and Standard Deviation of Scores*

| | ADHD | | Depression | | Asthma | | Total | |
|---|---|---|---|---|---|---|---|---|
| Participants | Mean | *SD* | Mean | *SD* | Mean | *SD* | Mean | *SD* |
| Reliability and social functioning | 22.52 | 6.18 | 27.52 | 7.39 | 18.26 | 7.08 | 22.84 | 7.79 |
| Malingering and misuse of medication | 20.95 | 6.76 | 23.75 | 7.79 | 18.87 | 7.93 | 21.23 | 7.70 |
| Ability to take responsibility | 12.07 | 3.72 | 15.70 | 5.54 | 10.55 | 4.64 | 12.80 | 5.12 |
| Norm-violating and externalizing behavior | 15.52 | 3.82 | 16.25 | 4.92 | 10.39 | 4.60 | 14.14 | 5.12 |
| Consequences of diagnostic disclosure | 13.50 | 4.34 | 17.95 | 3.69 | 11.13 | 4.33 | 14.23 | 4.97 |
| Etiology | 8.55 | 3.01 | 12.60 | 3.88 | 7.92 | 3.82 | 9.70 | 4.11 |
| Total | 93.12 | 20.75 | 113.78 | 26.85 | 77.13 | 28.17 | 94.94 | 29.21 |

Tukey's HSD (Table 10). Depression was found to have significantly higher stigma scores than asthma on all factors but one (malingering and misuse of medication). Depression had significantly higher scores than ADHD on four of the six factors and the total score. ADHD had significant higher stigma scores than asthma on three of the six factors (reliability and social functioning, norm-violating and externalizing behavior, and consequences of diagnostic disclosure) and the total score. Calculations of Cohen's *d* effect sizes (see Table 10) show moderate to large effect sizes where significant differences in stigma ratings exist, and primarily small effect sizes where the differences were not significant.

Table 10

*Significance Values from Tukey's Post Hoc, Effect Size*

| | ADHD v depression | | ADHD v asthma | | Depression v asthma | |
|---|---|---|---|---|---|---|
| Form | *p* | Cohen's *d* | *p* | Cohen's *d* | *p* | Cohen's *d* |
| Reliability and social functioning | .003* | 0.73 | .017* | 0.64 | .000* | 1.28 |
| Malingering and misuse of medication | .217 | 0.34 | .435 | 0.28 | .140 | 0.62 |
| Ability to take responsibility | .002* | 0.77 | .317 | 0.36 | .000* | 1.00 |
| Norm-violating and externalizing behavior | .741 | 0.16 | .000* | 1.21 | .000* | 1.23 |
| Consequences of diagnostic disclosure | .000* | 1.10 | .034* | 0.55 | .000* | 1.70 |
| Etiology | .000* | 1.35 | .717 | 0.18 | .000* | 1.22 |
| Total | .001** | 0.88 | .016* | 0.65 | .000* | 1.33 |

* $p < .05$.

** $p < .01$.

# CHAPTER V

# DISCUSSION AND CONCLUSION

The current study had two research questions. The first asked if there would be any significant differences between stigma expressed for depression, ADHD, and asthma. The second asked if there were significant differences between the amount of stigma displayed by male and female respondents. Interaction effects were also analyzed.

Between the three health concerns that were evaluated, depression had significantly higher stigma ratings than asthma on the total score as well as five of the six factors, and ADHD had significantly higher stigma ratings than asthma on the total score as well as three of the six factors. Between ADHD and depression, depression had significantly higher stigma ratings on four of the six factors, as well as the total score. The two factors on which there were not significant differences between ADHD and Depression were malingering and misuse of medication and norm violating and externalizing behavior.

The first factor considered is reliability and social functioning. On this factor, ADHD had significantly higher stigma ratings than asthma and depression had significantly higher stigma ratings than asthma as well as ADHD. This suggests among this group of participants, both ADHD and depression are stigmatized mental health conditions, and depression carries more stigma than ADHD in this area. In this population, reliability and social functioning could somewhat be connected to school work, but would also be connected to social skills, and having consistent and reliable interests and behavior patterns. Things like being able to problem solve, communicate

effectively and maintain friendships would be encompassed in this area as well.

On the malingering and misuse of medication subscale there were no significant differences between any of the disabilities examined; however, a main effect was noted on the ANOVA analysis. The effect size between depression and asthma was moderate, with Cohen's *d* equaling 0.62. This provides evidence that there may be some stigma toward people with depression faking symptoms or misusing medication. Perhaps if the number of participants had been larger, this difference would have been statistically significant. The difference between the stigma ratings for ADHD and asthma was not significant and the effect size was small, which suggests that there is not much stigma in this population about people with ADHD faking symptoms or overusing medication.

Another factor to consider is ability to take responsibility. On this factor, depression had significantly higher stigma ratings than ADHD and asthma. The difference between stigma ratings for ADHD and asthma were not significant. This shows that the participants generally hold more stigma toward people with depression when it comes to their ability act responsibly. This is an unexpected finding given that ADHD is frequently tied to irresponsibility and because of its symptoms that include difficulty with focus, organization, and impulsivity.

The fourth factor on the survey was norm-violating and externalizing behavior. On this factor, there was a significant difference in stigma ratings between depression and asthma as well as ADHD and asthma, but there were no significant differences in stigma ratings between depression and ADHD. This suggests that both depression and ADHD bear significant stigma when it comes to behavior that stands out from the norm. This

finding makes sense especially in the face of the fact that ADHD is known for its externalizing symptoms, and symptoms that are more visible have been linked in research to higher rates of stigma (Canu et al., 2007)

Another factor was consequences of diagnostic disclosure, in which the differences in stigma ratings between all of the different conditions were significant, with depression having the highest stigma ratings, followed by ADHD and then asthma. This shows that when people with ADHD tell others about their diagnosis, there are some stigmatizing feelings there, and that the stigmatizing feelings are even more significant for depression. This finding is concerning because previous research findings suggest that diagnostic disclosure is connected to positive consequences such as a greater sense of empowerment, a decrease in internalization of stigma feelings, and a decrease in public stigma (Brown et al., 2018).

The last factor on the survey, and one of two factors on which there was not significant differences between stigma ratings for ADHD and asthma was Etiology. The questions that match up to this factor in the survey are numbers 16, 22, 23, and 34 (see the Appendix) all of which suggest specific causes for the disorder in question. Suggested causes include childhood trauma, poor parenting, and excessive exposure to media. The fact that ADHD and asthma did not have significant differences in stigma ratings suggests that the population surveyed understood what causes feed into ADHD and asthma, or at least believes that the mentioned ‘causes’ are not associated with ADHD. However, because depression had significantly higher stigma ratings in Etiology when compared to ADHD and asthma, it can be concluded that this participant group does not

understand the factors that cause depression and believes that the listed causes may have a relationship with the development of depression. This may be one reason why Depression generally has higher stigma ratings than the other two conditions, as research has shown that misunderstanding of mental health conditions leads to greater stigma (Canu et al., 2007).

Findings for the current study are varied across the subscales of the measure used, with significant differences in stigma ratings between all conditions on some factors, and on other factors there being no significant differences at all between disability conditions. One key finding is that Depression had the highest stigma ratings on all factors, most of which were significant when compared to other disabilities. These results are similar to another study that also compared stigma ratings for depression, ADHD and asthma and found that depression had the highest ratings in most areas, followed by ADHD, and then asthma (Walker et al., 2008). This finding makes sense for a number of reasons. One reason would be that participants in this age range are less familiar with depression than ADHD. Average age of onset for ADHD is in early to middle childhood. The median age of diagnosis in severe cases is 4 years old, where moderate ADHD has a median age of diagnosis of 6 and for mild ADHD it is 7 (NIMH). By contrast, a significant increase in diagnoses of depression occurs at the age of puberty (APA, 2013), which is much older. NIMH reports that in 2017, 4.8% of 12 year olds had experience a major depressive episode in the last year, and that number goes up every year before leveling out at 15 (8.8% of 13 year olds, 11.8% of 14 year olds, and 17.8% of 15 year olds had a major depressive episode in the last year; NIMH, 2019). It is very possible that youth in this age

group are only beginning to become aware of the presence of depression in themselves or others. Familiarity with a mental health condition or with people affected by the mental health condition is one factor that can reduce stigma (Evans-Lacko et al., 2012).

Another factor to consider when examining high stigma ratings for depression among this age group is mental health literacy. A study that looked at mental health literacy among 12-17 years olds found that only 42.7% of participants were able to identify depression from a vignette (Melas et al, 2013.) Findings from a meta-analytic study suggest that there is a developmental effect on understanding of depression, with understanding increasing over time in regards to causes and treatment in particular (Georgakakou-Koutsonikou & Williams, 2017). These studies together provide further explanation and insight into the finding by the present study that depression carries significantly greater stigma. The high depression stigma ratings may be because this age group is still very young to understand depression well, so they do not have many facts about depression, and perhaps only echo attitudes reflected by adults around them but it is likely they will learn as they continue to age, and that their attitudes will change.

The second research question addressed gender differences in stigma ratings. There were no significant differences in stigma ratings between males and females, except on one factor. It is surprising that the differences in stigma ratings are not more prevalent because research shows that consistent differences are typically found between males and females and their expressed stigma, with males displaying higher amounts of stigma (Wendt & Shafer, 2015). The lack of significant differences on most factors in the current study is unusual and unexpected given the overwhelming research base that

supports significant differences. The one factor where there were significant differences between males and females in stigma ratings was Reliability and Social Functioning, with males reporting higher stigma. It is possible that social habits are one of the things that are most different between males and females when it comes to the factors considered in the present study, so it makes sense that the difference in stigma ratings was significant there. It is well documented that social habits between males and females are different and that they differentiate even further at puberty, which is a key part of life during the 11-14 years age range. It is hard to say why significant differences on more factors were not found. It is possible that there is something particular about this age range or population that makes the stigma ratings unique in this way, but the study as it stands is not sufficient to inform further. There is one study (Calear et al., 2011) that was also done with youth in which that female participants (eighth graders) were found to have higher levels of perceived stigma. Perceived stigma was defined as what the individuals' perception of other people's thoughts and feelings are. By this definition, perceived stigma would be different than the public stigma studied here. Calear et al. also found that males demonstrated higher rates of personal stigma, a finding consistent with previous research on both adults and youth. Their definition of personal stigma does align well with the current study's working definition of public stigma. Another study, a meta-analysis, suggested that there may be an age effect when it comes to gender differences in stigma ratings, particularly with depression, in that younger participants were less likely to show significant differences in reported stigma between males and females (Georgakakou-Koutsonikou & Williams, 2017). The present study as it stands is not able

to explain why the results found are different than other studies. It is possible that there is something unique about the particular population of youth that participated, or that there is something generational wherein attitudes between males and females are equalizing.

## Limitations and Future Directions

All studies have limits, and this study is no different. One primary limitation is with the sample. The sample of youth that took the survey was a convenience sample as they were invited to participate through their teachers at school. Further, over 900 consent forms were distributed for parents to sign and return. Of those, 182 were returned. Participation in the study depended on the student getting the form home, the parent being willing to sign it, and then the student turning it in to the teacher and actually taking the survey. The research team was dependent on the teachers asked to help as well and did not correspond with any of the participants directly about the study, which may have led to unclear purpose in participation of the survey, or more or less participation with certain teachers. Students who struggle with organization, do not consistently bring things home from school, or do not have good parent support may have been less likely to be able to participate in the study. All of these limiting factors mean that it is likely that the participants that completed the survey may not create a fully representative sample, even of the school where they attend.

Another limitation is the measure used in this study. This measure was adapted from another study, which means that the exact meaning of each item may not have been perfectly preserved as it was modified to fit the youth that it targeted. As such, the six-

factor structure that is assumed for data analysis may have slight flaws due to wording changes. Survey studies have natural limits such as not being able to know if respondents are truthful when answering or the possibility that respondents skew toward more socially appropriate answers.

In the future, it may be worth exploring more about the different levels of public stigma between ADHD and depression and even to broaden it to other age groups and include more varieties of mental health concerns. This could be done with more in-depth surveys, by creating measures, or even by more qualitative research. This information could in turn be used to further educate the public on mental health and to target the areas that have the most stigma or where education can do the most good toward lessening the stigma.

This particular study could be expanded upon as well to validate a measure of mental health stigma within various groups of people. Such a measure could then be used to create stigma reducing curriculum to be taught in schools. It could even help address some parts of stigma that keep people from seeking help for their mental health concerns and could even help inform therapeutic practices in the future. The results as they stand can begin to create a base of understanding of mental health stigma in youth. The fact that depression had higher stigma ratings, for example, can be important for adults in schools to know, as they can be more sensitive to the stigma experienced by students with depression. School staff would also need to be mindful of the stigma associated with ADHD. The lack of significant difference in stigma ratings between genders may indicate broader attitudes between genders are equalizing with the new young generation; future

research may investigate that as well.

## Conclusion

Mental health concerns can and do carry a good deal of stigma. Stigma has a well-documented effect on help-seeking in people with mental health concerns in particular. The current study compared survey responses of participants to evaluate differences in stigma expressed by male vs. female respondents and also between ADHD, depression and asthma. Findings show that the relationship between the different mental health concerns and public stigma regarding them is complex. Depression generally had the highest stigma ratings, followed by ADHD and then asthma. There were significant differences between stigma ratings from male and female participants on only one factor. It is hoped that the information gleaned from this study and future studies can be used to help lessen stigma felt towards and experienced by people with mental health concerns.

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# APPENDIX

## FUIERMAIER ET AL. (2012) SURVEY

# Fuiermaier et al 2012 survey (adapted for present study)

1 = strongly disagree; 2 = disagree; 3 = slightly disagree;
4 = slightly agree; 5 = agree; 6 = strongly agree

1. Students with ADHD/depression/asthma will be bad parents and have problems raising children. (Ability to Take Responsibility)

2. I would mind if my school counselor had ADHD/depression/asthma. (Ability to Take Responsibility)

3. Many students with ADHD/depression/asthma fake the symptoms. (Malingering and Misuse of Mediation)

4. Students with ADHD/depression/asthma misuse their medication (sell it to others, take too much…) (Malingering and Misuse of Mediation)

5. ADHD/depression/asthma is invented by drug companies to make profit. (Malingering and Misuse of Mediation)

6. People's attitudes about ADHD/depression/asthma make persons with ADHD/depression/asthma feel worse about themselves. (Consequences of Diagnostic Disclosure)

7. Many students with ADHD/depression/asthma exaggerate their symptoms in order to be medicated. (Malingering and Misuse of Mediation)

8. Nobody wants to be friends with a student with ADHD/depression/asthma. (Consequences of Diagnostic Disclosure)

9. ADHD/depression/asthma is a childhood disorder and not seen in adults. (Malingering and Misuse of Mediation)

10. Students with ADHD/depression/asthma lie more often than students without ADHD/depression/asthma. (Malingering and Misuse of Mediation)

11. Students with ADHD/depression/asthma have a lower IQ than without ADHD/depression/asthma. (Malingering and Misuse of Mediation)

12. Students with ADHD/depression/asthma are more likely to lose assignments. (Norm-violating and Externalizing Behavior)

13. As a rule, students with ADHD/depression/asthma feel that telling others that they have ADHD/depression/asthma was a mistake. (Consequences of Diagnostic Disclosure)

14. I would not mind if a doctor who has ADHD/depression/asthma treated me. (Ability to Take Responsibility)

15. Students with ADHD/depression/asthma care less about other's problems. (Reliability and Social Functioning)

16. ADHD/depression/asthma is caused by bad parenting. (Etiology)

17. Teachers with ADHD/depression/asthma are able to take care of a group of children in kindergarten. (Reliability and Social Functioning)

18. I could tell when a student in my class has ADHD/depression/asthma. (Norm-violating and Externalizing Behavior)

19. Students with ADHD/depression/asthma act without thinking. (Norm-violating and Externalizing Behavior)

20. Students with ADHD/depression/asthma have a different sense of humor than students without ADHD/depression/asthma. (Norm-violating and Externalizing Behavior)

21. Students with ADHD/depression/asthma have a lower self-esteem than students without ADHD/depression/asthma. (Consequences of Diagnostic Disclosure)

22. Too much exposure to video games and TV shows can cause ADHD/depression/asthma. (Etiology)

23. Students with ADHD/depression/asthma do not engage enough in sports. (Etiology)

24. Students with ADHD/depression/asthma feel excluded from peers. (Consequences of Diagnostic Disclosure)

25. You cannot rely on students with ADHD/depression/asthma. (Reliability and Social Functioning)

26. I would not want to work with a peer with ADHD/depression/asthma on a group project. (Ability to Take Responsibility)

27. Students with ADHD/depression/asthma are self-focused and egoistic. (Reliability and Social Functioning)

28. I would be willing to date someone with ADHD/depression/asthma. (Reliability and Social Functioning)

29. I would mind if my teacher had ADHD/depression/asthma. (Ability to Take Responsibility)

30. Many students pretend to have ADHD/depression/asthma just to get medication. (Malingering and Misuse of Mediation)

31. Students with ADHD/depression/asthma are less able to give advice. (Malingering and Misuse of Mediation)

32. Students with ADHD/depression/asthma have no problems making friends. (Reliability and Social Functioning)

33. Students with ADHD/depression/asthma are less successful than students without ADHD/depression/asthma. (Reliability and Social Functioning)

34. ADHD/depression/asthma is a consequence of a difficult childhood. (Etiology)

35. Students with ADHD/depression/asthma are able to lead a group of peers. (Reliability and Social Functioning)

36. Under medication, students with ADHD/depression/asthma are less trustworthy. (Reliability and Social Functioning)

37. Students with ADHD/depression/asthma are not responsible with money. (Norm-violating and Externalizing Behavior)